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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/598,938

09/15/2006

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EXAMINER

DESAI, NAISHADH N

ART UNIT

PAPER NUMBER

2834

MAIL DATE

DELIVERY MODE

02/05/2009

PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/598,938	<b>Applicant(s)</b> VASILESCU ET AL.	
	<b>Examiner</b> NAISHADH N. DESAI	<b>Art Unit</b> 2834	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 20 November 2008.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) 1-20 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-10 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 15 September 2006 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)            | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | Paper No(s)/Mail Date. _____                                      |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>11/07/2006</u> .  | 6) <input type="checkbox"/> Other: _____                          |

## **DETAILED ACTION**

### ***Election/Restrictions***

1. Applicant election with traverse of Group I (claims 1-10) is acknowledged. Examiner also acknowledges applicants explanation of Figure 4 and its related cross sections. Regarding applicants argument that there would not be any undue burden to examine Group II (claims 11-20) is found non persuasive. Group II does not require an input and output axis as Group I requires. Further, Group I also require the output couplings to be oriented along the orientation of the corresponding input or output axis and to have a generally constant area of their cross section of flow. Group II requires the fluid to enter one input at a first flow rate and exit at one output at a second flow rate, which Group I does not require. Also examiner would like to remind applicant that within the election of Group I, applicant has received election of different species since claim 6 is directed to Figure 6, claim 7 to Figure 7 and claim 8 to Figures 10 and 11. The requirement is still deemed proper and is therefore made FINAL.

### ***Priority***

2. Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

### ***Information Disclosure Statement***

3. The information disclosure statement (IDS) submitted on 11/07/2006 is in compliance with the provisions of 37 CFR 1.97. Accordingly, the information disclosure statement is being considered by the examiner.

### ***Claim Objections***

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4. Claim 7 is objected to because of the following informalities: it is not clear what applicant means by “an individual input coupling each turn”. Perhaps applicant meant “an individual input coupling **for** each turn” ? Appropriate correction is required.

***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-5 and 9 are rejected under 35 U.S.C. 102(b) as being anticipated by Ronning et al (US 5623175).

5. Regarding claim 1, Ronning et al teaches:

A cooling channel or conduit length for a rotary electrical machine (Fig 2 and abstract), said channel or conduit length comprising at least one channel or conduit placed along at least part of the machine to be cooled and having an input axis and an output axis (Figs 2 and 3),

as well as at least one input coupling and at least one output coupling for a cooling fluid (Fig 3,44,46) and between which said at least one channel or conduit extends (Fig 3,40), wherein said at least one input coupling or couplings and said at least one output coupling or couplings are each oriented at least approximately along said orientation of said corresponding input axis or output axis (Fig 3,40), respectively, of said channel or conduit and have, all along their longitudinal extents, a generally constant area of their cross section of flow (Fig 3,44 and 46 also Fig 4,44' and 46' show

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that the inlet and outlet conduits have a generally constant area of their cross section of flow).

6. Regarding claim 2, Ronning et al teaches:

The cooling channel or conduit length according to claim 1, wherein said channel or conduit is a helical channel or conduit having at least one turn intended to surround at least part of the machine to be cooled (Fig 3,44,46) and having respectively an input axis and an output axis oriented along a tangential axis or plane passing through an input and output circumferential zone of the length, respectively, and said at least one input coupling and said at least one output coupling. (Fig 3,44,46)

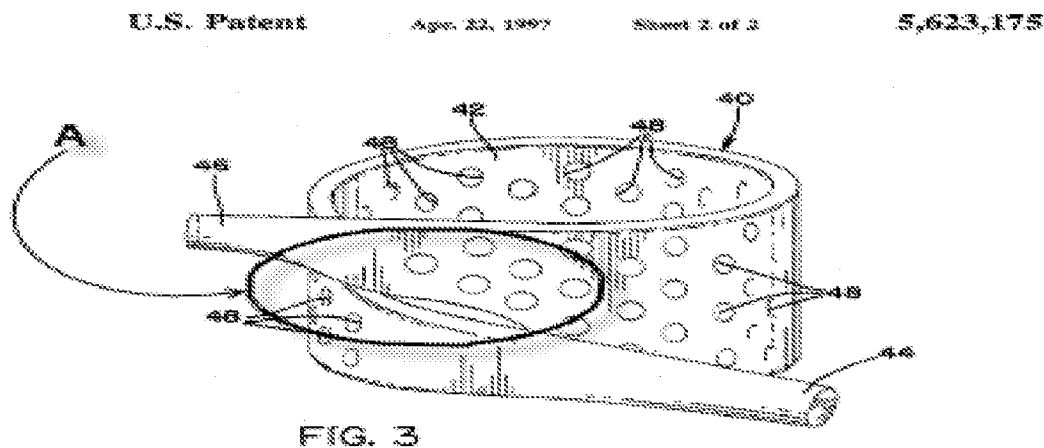
7. Regarding claim 3, Ronning et al (Figs 3 and 4) teaches that the input coupling and said at least one output coupling are disposed, in an axial view of the length, with a small angular difference between said input and output couplings.

8. Regarding claim 4, Ronning et al (Figs 3 and 4) teaches that the helical channel or conduit is formed by two complementary walls, an internal wall and an external wall, said external wall being formed by a cooling fluid envelope conformed so as to grant to the cooling fluid a helical path with a single turn.

9. Regarding claim 5, Ronning et al (Figs 3,label A below) teaches that the cooling channel or conduit length comprises a single part joining said at least one input coupling

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and said at least one output coupling, these two couplings being separated from each other by a changing low wall conformed so as to give a favored flow direction to the cooling fluid.



10. Regarding claim 9, Ronning et al (Figs 3 and 4) teaches a rotary electrical machine, wherein it comprises said cooling length according to claim 1.

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.

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2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

Claims 8 and 10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ronning et al as applied to claim 1 above.

11. Regarding claim 8, Ronning et al (Figs 3 and 4) teaches:

The cooling channel or conduit length according to claim 1, wherein said cooling channel or conduit length comprises conduits parallel to each other and disposed in parallel around the longitudinal axis of the machine to be cooled (Fig 3,44,46).

Ronning et al do not appear to explicitly teach that “at least one input coupling and said at least one output coupling being disposed coaxially with respect to said channel or conduit to which they are allocated”. However, in Fig 4, Ronning et al shows that the spiral or helical form of the cooling device can be uncoiled into a straightened body wherein at least one input coupling and said at least one output coupling being disposed coaxially with respect to said channel or conduit to which they are allocated. Ronning et al discloses the claimed invention except for explicitly teaching that the shape or size of the input coupling and said at least one output coupling being disposed coaxially with respect to said channel or conduit to which they are allocated. It would have been an obvious matter of design choice to make the shape or size of the input coupling and said at least one output coupling to be disposed coaxially with respect to said channel or conduit to which they are allocated, since such a modification would have involved a mere change in the shape of a component. A change in shape is generally recognized as being within the level of ordinary skill in the art. *In re Rose*, 105 USPQ 237 (CCPA

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1955). The motivation to do so would be based on the parameters of space availability, cost and the desired routing of the conduits for ease of installation of the device in various applications.

12. Regarding claim 10, Ronning et al (Figs 3 and 4) teaches the device as claimed except for explicitly mentioning that the cooling channel or conduit length as recited in claim 3, wherein said small angular difference is between 20 and 30 percent.

Ronning et al discloses the claimed invention except for explicitly teaching that the shape or size of the cooling channel or conduit length as recited in claim 3, wherein said small angular difference is between 20 and 30 percent. It would have been an obvious matter of design choice to make the shape or size of the cooling channel or conduit length, wherein said small angular difference is between 20 and 30 percent, since such a modification would have involved a mere change in the shape of a component. A change in shape is generally recognized as being within the level of ordinary skill in the art. *In re Rose*, 105 USPQ 237 (CCPA 1955). The motivation to do so would be based on the parameters of space availability, cost and the desired routing of the conduits for ease of installation of the device in various applications.

Claims 6 and 7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ronning et al as applied to claim 1 above in view of Muso et al (US 5678760).

13. Regarding claim 6, Ronning et al teaches the device as claimed above for explicitly teaching that the cooling channel or conduit length comprises two adjacent turns with an input coupling in common and an individual output coupling for each turn.



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Muso et al (Fig 21a) teaches a device wherein the cooling channel or conduit length comprises two adjacent turns with an input coupling in common and an individual output coupling for each turn. It would have been obvious to a person having ordinary skills in the art at the time the invention was made to modify the device of Ronning et al with the teachings of Muso et al to make a device wherein the cooling channel or conduit length comprises two adjacent turns with an input coupling in common and an individual output coupling for each turn. The motivation to do so would be that it would allow one to produce a device capable of stable and effective cooling (Col 1 ll 41-53 of Muso et al).

14. Regarding claim 7, Ronning et al teaches the device as claimed above for explicitly teaching that the cooling channel or conduit length comprises two adjacent turns with an individual input coupling each turn and a common output coupling.

Muso et al teaches (in various embodiments, Figs 10-12, 20-21) a device wherein the cooling channel or conduit length comprises two adjacent turns with an individual input coupling each turn and a common output coupling. Muso et al clearly teaches that it is obvious to change the shape of cooling conduits, pipes, couplings of a device to make an efficient cooling device. It would have been obvious to a person having ordinary skills in the art at the time the invention was made to modify the device of Ronning et al with the teachings of Muso et al to make a device wherein the cooling channel or conduit length comprises two adjacent turns with an individual input coupling each turn and a common output coupling. The motivation to do so would be that it would allow one to produce a device capable of stable and effective cooling (Col 1 ll 41-53 of Muso et al).

**Conclusion**

15. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. See PTO-892 for details.

16. According to § 2111 of the MPEP, claims must be given their broadest reasonable interpretation. A portion of this section is cited below for the practitioner's convenience:

During patent examination, the pending claims must be "given \*>their< broadest reasonable interpretation consistent with the specification." >*In re Hyatt*, 211 F.3d 1367, 1372, 54 USPQ2d 1664, 1667 (Fed. Cir. 2000).< Applicant always has the opportunity to amend the claims during prosecution, and broad interpretation by the examiner reduces the possibility that the claim, once issued, will be interpreted more broadly than is justified. See *In re Prater*, 415 F.2d 1393, 1404-05, 162 USPQ 541, 550-51 (CCPA 1969).

17. Any inquiry concerning this communication or earlier communications from the examiner should be directed to NAISHADH N. DESAI whose telephone number is (571)270-3038. The examiner can normally be reached on M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Quyen Leung can be reached on (571) 272-8188. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Quyen P Leung/

Supervisory Patent Examiner, Art Unit 2834

NND